

**Getting
Started Guide**

hp StorageWorks Continuous Access EVA V1.1

Product Version: 1.1

Third Edition (October 2003)

Part Number: T3031-96201



This guide lists the hardware and the software applications that new and upgrading users must have to set up and configure an HP StorageWorks Continuous Access EVA V1.1 solution. Reference is made to documents that provide more detailed information.



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Continuous Access EVA V1.1 Getting Started Guide
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About This Guide

This document provides information to help you:

- Understand what Continuous Access EVA does
- Determine whether you have all the components needed for setting up Continuous Access EVA
- Perform the setup and configuration tasks in the correct sequence
- Readily locate procedures in referenced documents

“About this Guide” topics include:

- [Overview](#), page 5
- [Conventions](#), page 11
- [Getting Help](#), page 12

Overview

This section covers the following topics:

- [Intended Audience](#)
- [Prerequisites](#)
- [Related Documentation](#)

Intended Audience

This guide is intended for use by anyone who will be setting up and configuring an HP StorageWorks Continuous Access EVA environment.

Prerequisites

This guide assumes that you have already:

- Decided on a Continuous Access EVA design and ordered the components
- Configured dual fabrics with working intersite links

Related Documentation

Some general tasks in later chapters of this guide refer to documents that provide more detailed information related to the performance of that task. This section lists all of the referenced documents, as well as other applicable documentation. To obtain these documents, browse to the HP storage website at <http://h18006.www1.hp.com/storage/software.html>, and then navigate to the applicable product page. From there, either click the **technical documentation** link, if present, or the **support for your product** link followed by the link to **self-support >> manuals**.

For example, to view Continuous Access EVA documentation, go to the website above, and click the link for **HP StorageWorks Continuous Access EVA**. When the Continuous Access EVA overview and features page is displayed, click the **technical documentation** link on the product information pane to the right.

Continuous Access EVA and Continuous Access User Interface

The following documents discuss HP StorageWorks Continuous Access EVA and the Continuous Access user interface. In addition, extensive online help is available within the Continuous Access user interface application.

- *HP StorageWorks Continuous Access EVA V1.1 Design Reference Guide*, part number AA-RS2YD-TE
- *HP StorageWorks Continuous Access EVA V1.1 Operations Guide*, part number AA-RTEHC-TE
- *HP StorageWorks Continuous Access EVA V1.1 Release Notes*, part number T3031-98301
- *HP StorageWorks Continuous Access User Interface V1.1 Installation Guide*, part number T3031-96103
- *HP StorageWorks Continuous Access User Interface V1.1 Release Notes*, part number T3031-98102
- *HP StorageWorks Continuous Access EVA and Data Replication Manager SAN Extension Reference Guide*, part number AA-RU5CB-TE.

Enterprise Virtual Array and Operating System Solution Kits

The following documents discuss the HP StorageWorks Enterprise Virtual Array (EVA) and operating system solution kits that are supported by Continuous Access EVA.

- *HP StorageWorks Enterprise Virtual Array Hardware Configuration Guide EVA3000*, part number AA-RTE9B-TE
- *HP StorageWorks Enterprise Virtual Array Hardware Configuration Guide EVA5000*, part number AA-RS28C-TE
- *HP StorageWorks Enterprise Virtual Array Changing EVA Versions EVA5000*, part number AA-RS29D-TE
- *HP StorageWorks Enterprise Virtual Array Read Me First EVA3000*, part number AA-RU54B-TE
- *HP StorageWorks Enterprise Virtual Array Read Me First EVA5000*, part number T3030-99101
- *HP StorageWorks Enterprise Virtual Array Release Notes EVA3000*, part number AA-RUCSC-TE
- *HP StorageWorks Enterprise Virtual Array Release Notes EVA5000*, part number T3030-98201
- *HP StorageWorks Enterprise Virtual Array User Guide EVA3000*, part number EK-EVA30-UG. B01
- *HP StorageWorks Enterprise Virtual Array User Guide EVA5000*, part number EK-E2USR-UA. C01
- *HP StorageWorks HP-UX Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUHKB-TE
- *HP StorageWorks HP-UX Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUHNB-TE
- *HP StorageWorks IBM AIX Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUHAB-TE
- *HP StorageWorks IBM AIX Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUHDB-TE
- *HP StorageWorks Linux Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUHVb-TE
- *HP StorageWorks Linux Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUHYB-TE

- *HP StorageWorks Novell Netware Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUHQB-TE
- *HP StorageWorks Novell Netware Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUHTB-TE
- *HP StorageWorks OpenVMS Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUGUB-TE
- *HP StorageWorks OpenVMS Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUGXB-TE
- *HP StorageWorks Sun Solaris Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUH4B-TE
- *HP StorageWorks Sun Solaris Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUH7C-TE
- *HP StorageWorks Tru64 UNIX Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUGPB-TE
- *HP StorageWorks Tru64 UNIX Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUGSB-TE
- *HP StorageWorks Windows Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide*, part number AA-RUGZB-TE
- *HP StorageWorks Windows Kit V3.0B for Enterprise Virtual Array Release Notes*, part number AA-RUH2B-TE
- *HP StorageWorks Storage System Scripting Utility Enterprise Virtual Array Reference Guide*, part number AA-RU5HB-TE

Storage Management Appliance and Command View EVA

The following documents discuss the HP OpenView Storage Management Appliance and HP StorageWorks Command View EVA application. Command View EVA V3.1 is now part of the Storage Operations Manager. In addition to these documents, extensive online help is available within the Command View EVA application.

- *HP OpenView Storage Management Appliance Software V2.1 Using Multiple Storage Management Appliances in a SAN Application Notes*, part number AA-RU6HA-TE
- *HP OpenView Storage Management Appliance Software V2.1 Release Notes*, part number AA-RNEAL-TE
- *HP OpenView Storage Management Appliance Software V2.1 Update Installation Card*, part number AV-RNE9K-TE

- *HP OpenView Storage Management Appliance Software V2.1 User Guide*, part number AA-RSQAD-TE
- *HP OpenView Storage Management Appliance III Configuration Guide*, part number EK-OVSMA-IG. A01
- *HP StorageWorks Command View EVA Getting V3.1 Started Guide*, part number AA-RQZBE-TE
- *HP OpenView Storage Operations Manager for EVA Read Me First*, part number T2538-88000
- *HP OpenView Storage Operations Manager Installation Instructions*, part number T2538-88001

HP Storage Area Networks

The following document is a guide to designing and building large storage area networks (SANs): *HP StorageWorks SAN Design Reference Guide*, part number AA-RMPNH-TE

Business Copy EVA

The following documents describe the Business Copy EVA application.

- *HP StorageWorks Business Copy EVA/MA/EMA V2.2 Read Me First*, part number T3032-99101
- *HP StorageWorks Business Copy EVA/MA/EMA V2.2 Network Administration Guide*, part number T3032-96101
- *HP StorageWorks Business Copy EVA/MA/EMA V2.2 Using BC with Continuous Access EVA and Data Replication Manager Application Notes*, part number T3032-96108

Secure Path

The following documents discuss setting up Secure Path for specific operating systems that require this application. The latest Secure Path documentation is available on the HP website at:

<http://h18004.www1.hp.com/products/sanworks/secure-path/documentation.html>

- *HP StorageWorks Secure Path V3.0C for HP-UX*
- *HP StorageWorks Secure Path V3.0C for HP-UX Workgroup Edition*
- *HP StorageWorks Secure Path V2.0D for IBM AIX*
- *HP StorageWorks Secure Path V3.0A for Linux*

- *HP StorageWorks Secure Path V3.0A for Linux Workgroup Edition*
- *HP StorageWorks Secure Path V3.0C for Novell Netware*
- *HP StorageWorks Secure Path V3.0C for Novell Netware Workgroup Edition*
- *HP StorageWorks Secure Path V3.0C for Sun Solaris*
- *HP StorageWorks Secure Path V4.0C for Windows*
- *HP StorageWorks Secure Path V4.0C for Windows Workgroup Edition*

B-Series Switches

The following documents discuss HP StorageWorks B-series switches.

- *HP StorageWorks Fabric OS Procedures Version 3.1.X/4.1.X User Guide*, part number AA-RS23C-TE
- *HP StorageWorks Fabric OS Version 3.1.X/4.1.X Reference Guide*, part number AA-RS24C-TE
- *HP StorageWorks Fabric Watch Version 3.1.X/4.1.X User Guide*, part number AA-RTSGC-TE
- *HP StorageWorks Web Tools Version 3.1.X/4.1.X User Guide*, part number AA-RS25C-TE
- *HP StorageWorks Zoning Version 3.1.X/4.1.X User Guide*, part number AA-RS26C-TE

M-Series Switches

The following documents discuss HP StorageWorks M-series switches.

- *HP StorageWorks CLI Reference Guide for Directors and Edge Switches*, part number AA-RQ7AC-TE
- *HP StorageWorks Edge Switch Release Notes*, part number AA-RTDZA-TE/958-000284-001
- *HP StorageWorks SAN High Availability Planning Guide*, part number AA-RS2DC-TE
- *HP StorageWorks SNMP Reference Guide for Directors and Edge Switches*, part number AA-RQ7BC-TE

Conventions

Conventions consist of the following:

- [Document Conventions](#)
- [Text Symbols](#)

Document Conventions

The document conventions included in [Table 1](#) apply to this document.

Table 1: Document Conventions

Element	Convention
Cross-reference links	Blue text: Figure 1
Key and field names, menu items, buttons, and dialog box titles	Bold
File names, application names, document names, and text emphasis	<i>Italics</i>
User input, command and directory names, and system responses (output and messages)	Monospace font COMMAND NAMES are uppercase monospace font unless they are case sensitive
Variables	<monospace, italic font>
Website addresses	Blue, underlined sans serif font text: http://www.hp.com

Text Symbols

The following symbols may be found in the text of this guide. They have the following meanings.



WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



Caution: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Getting Help

If you still have a question after reading this guide, contact an HP authorized service provider or access our website: <http://www.hp.com>.

HP Technical Support

Telephone numbers for worldwide technical support are listed on the following HP website: <http://www.hp.com/support/>. From this website, select the country of origin.

Note: For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage Website

The HP website has the latest information on this product, as well as the latest drivers. Access storage at:

<http://www.hp.com/country/us/eng/prodserv/storage.html>.

From this website, select the appropriate product or solution.

HP Authorized Reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- Elsewhere, see the HP website for locations and telephone numbers:
<http://www.hp.com>.

Before You Begin

1

The purpose of this guide is to identify the basic requirements for HP StorageWorks Continuous Access EVA and steer you through the installation and configuration process. Whether you are currently using HP StorageWorks Data Replication Manager (DRM), HP StorageWorks Enterprise Virtual Arrays (EVAs), or are new to the HP StorageWorks and HP OpenView product lines, you will find an overview of the necessary actions for running a Continuous Access EVA solution. Detailed procedures available in other documents are not repeated in this document. Instead, you are referred to those procedures in the appropriate document.

Description of Continuous Access EVA

Continuous Access EVA is a Fibre Channel controller-based replication software solution for mirroring data from a *primary (or local)* location to an *alternate (or remote)* location. Storage drives and virtualized-RAID controllers running Virtual Controller Software (VCS) comprise the storage arrays (or storage systems). Two storage systems can communicate *bidirectionally*, meaning that a storage system can be used as the primary *source* for data and as a *destination* for data replication. By providing redundant systems and software, as well as alternate paths for data flow, highly available and disaster-tolerant data is achieved with no single point of failure.

A basic Continuous Access EVA configuration is shown in [Figure 1](#). Fibre Channel switches tie together all the elements of your fabrics. The illustration shows two fabrics between sites, a *black* and a *gray* fabric. Having a fabric in place and operational is necessary before you even begin any other equipment installation. For information on fabric topologies, fabric design rules, and switch zoning, consult the *HP StorageWorks SAN Design Reference Guide*. For information on designing a Continuous Access EVA solution, refer to the *HP StorageWorks Continuous Access EVA V1.1 Design Reference Guide*.

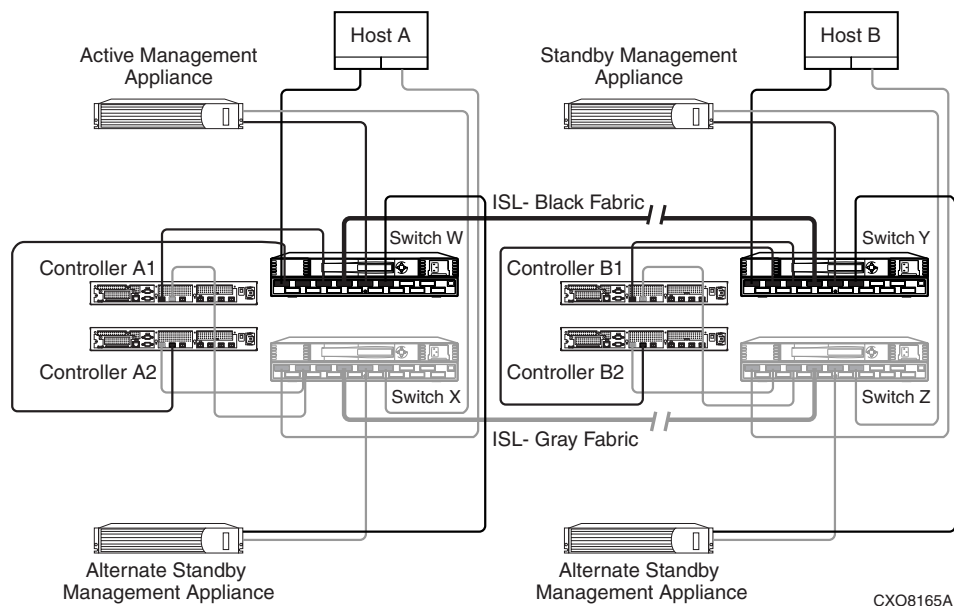


Figure 1: Continuous Access EVA basic configuration

Hosts running supported operating systems are equipped with Fibre Channel adapters to communicate with the HSV controllers via your switches. Any host operating system that does not have native multipath support must have Secure Path software installed.

The HP OpenView Storage Management Appliance (SMA) provides a centralized point for managing and monitoring SAN elements. One SMA is required per site, with two recommended for high availability. The SMA comes with preinstalled software and two (dual) Fibre Channel adapters. The HP StorageWorks Command View EVA and Continuous Access user interface are two necessary applications you install on the SMA for managing your EVA storage and monitoring the SAN. If you are using an environment with HSG controllers, the HP StorageWorks HSG Element Manager application performs the necessary storage management.

Use Cases

This guide addresses four scenarios:

- **Type 1 Scenario**—Those who are setting up a Continuous Access EVA V1.1 solution for the first time. All-new equipment and software is to be set up and installed.
- **Type 2 Scenario**—Those who are upgrading from Continuous Access EVA V1.0 or V1.0A to Continuous Access EVA V1.1. Upgrading some parts of the existing environment is all that is required.
- **Type 3 Scenario**—Those who are upgrading an EVA system to begin using Continuous Access EVA. If HSV controllers running VCS Version 2.0 are part of your operating environment, they can be upgraded to run Continuous Access EVA with VCS Version 3.010.
- **Type 4 Scenario**—Those who are moving from a Data Replication Manager solution to Continuous Access EVA. If you are running in an environment with HSG80 controllers and ACS versions 8.6P or 8.7P, you can continue to process as before by implementing proper zoning. The new Continuous Access EVA equipment and software is installed in a new zone.

Compatibility Between Applications

[Table 2](#) describes the version compatibility of various hardware and software components with Continuous Access EVA. To determine whether a component is compatible with a specific Continuous Access EVA environment, read down the column for that release.

With Continuous Access EVA V1.1, older versions of software are temporarily compatible through the upgrade process. For example, Command View EVA V3.0A is compatible and supported with Continuous Access V1.1 during the upgrade process to Command View EVA V3.1.

Table 2: Continuous Access EVA Compatibility Matrix by Release

Component	Continuous Access EVA V1.0 & 1.0A	Continuous Access EVA V1.1
EVA3000 storage systems	No	Yes
EVA5000 storage systems	Yes	Yes
Storage Management Appliance software v2.0 with service pack 1a	Yes	No
Storage Management Appliance software v2.1	No	Yes
Continuous Access User Interface V1.0	Yes	No
Continuous Access User Interface V1.1	No	Yes
Command View EVA V3.0	Yes	No
Command View EVA V3.0A	Yes	No
Command View EVA V3.1	No	Yes
Business Copy EVA V2.1A	Yes	No
Business Copy EVA V2.2	No	Yes
Virtual Controller Software V3.0	Yes	Yes
Virtual Controller Software V3.010	No	Yes

The following chapters discuss preparation work to be done, followed by the sequence of steps necessary for setting up and installing the equipment and software in your SAN.

Initial Preparation

2

This chapter outlines preparation that must be done before any equipment or software configuration. The following topics are discussed:

- [Assumptions](#), page 19
- [Performing Inventory](#), page 20
- [Equipment Setup](#), page 23

Assumptions

If you are installing a Continuous Access EVA environment for the first time, the following assumptions are made:

- You have selected a SAN topology and have ordered all the necessary equipment and software. You most likely have worked with an HP authorized service provider to determine your requirements.
- You have installed the necessary Fibre Channel switches to establish two operational fabrics with intersite links. Several switch product lines are supported: B-, C-, and M-series. Each product line offers different capabilities and they do not interoperate in the same fabric. Your HP authorized service provider can help you determine your requirements.
- You have the required Fibre Channel switch licenses for extended fabrics, if applicable.
- You have hosts running supported operating systems.

If you are moving from an existing environment composed of Enterprise Virtual Arrays (EVAs) or from one with data replication performed by HSG80 controllers, then you most likely have working fabrics. For a discussion of Continuous Access EVA requirements and best practices, refer to the *HP StorageWorks Continuous Access EVA V1.1 Design Reference Guide*.

Performing Inventory

Inventory all the equipment and software to ensure that the necessary components are on hand. Items needed by the four types of case scenarios are listed below.

Type 1 Scenario—New User to Continuous Access EVA V1.1

The following items are required for a new installation:

- Enterprise virtual arrays
 - Racks
 - HSV controllers
 - Drive shelves (including drives)
 - Virtual Controller Software (VCS) 3.010 firmware
- Continuous Access EVA license
- Business Copy EVA license for snapshots and Snapclones, if desired
- HP OpenView Storage Operations Manager software
- Continuous Access user interface software
- HP OpenView Storage Management Appliances with installed software
- Host solutions kits for each operating system with device drivers
- Fibre Channel adapters (FCAs) for each host
- Additional switches, if necessary, with appropriate gigabit interface converters (GBICs) or small form factor pluggables (SFPs)
- Cable kits
- Secure Path software (platform-specific) with licenses

Type 2 Scenario—Upgrade from Continuous Access EVA V1.0 or V1.0A to Continuous Access EVA V1.1

For users of Continuous Access EVA versions 1.0 or 1.0A, HP recommends the following applications be upgraded in the following order:

1. Storage Management Appliance Software Version 2.1
2. Command View EVA V3.1
3. VCS 3.010 firmware
4. Continuous Access user interface V1.1
5. Business Copy EVA V2.2 (licensed) for snapshots and Snapclones, if desired

Type 3 Scenario—EVA with VCS V2.0 to Continuous Access EVA V1.1

EVA V2.0 environment users moving to Continuous Access EVA V1.1 require the following:

- An upgrade from VCS Version 2.0 to 3.010. Refer to the *HP StorageWorks Enterprise Virtual Array Changing EVA Versions Instructions* for upgrade information.
- Continuous Access EVA license
- Continuous Access user interface V1.1
- Command View EVA V3.1
- Business Copy EVA V2.2 (licensed) for snapshots and Snapclones, if desired
- Storage Management Appliance Software Version 2.1

Type 4 Scenario—DRM to Continuous Access EVA V1.1

DRM environment users with HSG80s require the same items as those listed in the Type 1 scenario, with possible exceptions. Hosts with recent FCAs might require only device driver updates. Recent versions of Secure Path software may not require an upgrade. If SMAs are in this environment, then an upgrade to HP OpenView Storage Management Appliance Software Version 2.1 is also required.

Licenses

Two types of licenses requiring keys are associated with Continuous Access EVA:

- Business Copy EVA (optional)
- Continuous Access EVA (not required for upgrading from Continuous Access EVA V1.0 to V1.1)

You should immediately begin the steps necessary to acquire these licenses, because you must have license keys to set up your configurations. For licensing information, refer to Chapter 3.

Planning

Before setting up a Continuous Access EVA environment, HP strongly recommends that you read the “Configuration Planning” chapter in the *HP StorageWorks Continuous Access EVA V1.1 Operations Guide*. The chapter offers suggestions, strategies, and restrictions to help you in the planning process.

Equipment Setup

Table 3 lists the order of the tasks needed to set up the equipment in your environment. References are made to the appropriate documentation to help you in this effort. This table does not apply to users already in a Continuous Access EVA V1.0 environment. Users coming from an EVA V2.0 environment should skip steps referring to equipment that is already installed.

Table 3: Preparation Checklist for Continuous Access EVA Installation

Task	Reference Document
Set up EVA storage system hardware.	<i>EVA User Guide</i> , "Storage System Startup" Chapter Note: These steps are performed by an HP authorized service provider
Make fabric connections: <ul style="list-style-type: none"> ■ Connect GBICs or SFPs to B-, C-, or M-series switch ports. ■ Connect HSV controller pair, SMA, and hosts to Fibre Channel fabrics. ■ Test intersite links. HP recommends that you run and monitor your switches for at least 24 hours. Any errors should be at an acceptable level as determined between you and your service provider. 	<i>Continuous Access EVA Operations Guide</i> , "Configuration" Chapter <i>Storage Management Appliance III Configuration Guide</i> <i>Continuous Access EVA Design Reference Guide</i> <i>Continuous Access EVA and Data Replication Manager SAN Extension Reference Guide</i>
Install Fibre Channel adapters.	Refer to documentation with FCAs (OS-specific)
Install host solution kits and device drivers, if required. Upgrade drivers if necessary.	OS-Specific Kit V3.0B for Enterprise Virtual Array Installation and Configuration Guide
Install Secure Path for the Microsoft® Windows® platforms, if applicable. Note: Secure Path for UNIX-based platforms will be installed in the next chapter.	Secure Path documentation for Windows
Create separate management zones for any HSG80 systems in your SAN.	<i>SAN Design Reference Guide</i> <i>Continuous Access EVA Operations Guide</i> , "Configuration" Chapter
Plan and populate layout of one or more physical disk groups.	<i>Continuous Access EVA Operations Guide</i> , "Configuration Planning" Chapter

Table 3: Preparation Checklist for Continuous Access EVA Installation (Continued)

Task	Reference Document
Power up storage systems and SMAs.	<i>EVA User Guide</i> , "Storage System Startup" Chapter <i>SMA III Configuration Guide</i>
Enter storage system WWN into controller using operator control panel.	<i>EVA User Guide</i> , "Storage System Startup" Chapter
Install SMA software updates.	<i>Storage Management Appliance Software User Guide</i>
Install EVA system software VCS V3.01 or upgrade EVA system software V2.0 to V3.01, if required.	<i>EVA Read Me First</i> <i>EVA Release Notes</i> <i>Enterprise Virtual Array Changing EVA Versions Instructions</i>
Configure one switch zone encompassing the active SMA and all storage systems.	<i>SAN Design Reference Guide</i> <i>Zoning User Guide</i> <i>Continuous Access EVA Operations Guide</i> , "Configuration Planning" Chapter
Configure one switch zone for each operating system/host and the storage systems.	<i>SAN Design Reference Guide</i> <i>Zoning User Guide</i> <i>Continuous Access EVA Operations Guide</i> , "Configuration Planning" Chapter
Install Command View EVA. Set up agents and user options.	<i>Command View EVA Getting Started Guide</i> , "Getting Started with Command View EVA v3.1" Chapter

When you have completed these tasks, you are ready to install licenses and configure your storage system for Continuous Access EVA.

Licensing

3

This chapter describes licensing information for Continuous Access EVA. The following topics are discussed:

- [Enterprise Virtual Array World Wide Name and Licenses](#), page 25
- [Enterprise Virtual Array Value-Added Licenses](#), page 26
- [Obtaining a New License Key](#), page 27
- [Entering A License Key](#), page 28
- [License Troubleshooting Measures](#), page 29

Enterprise Virtual Array World Wide Name and Licenses

The World Wide Name (WWN) is a unique Fibre Channel identifier consisting of a 16-character hexadecimal number. Each storage array is assigned a WWN that is required when requesting a license key for your Enterprise Virtual Array storage system. HP assigns the WWN to a specific storage system prior to shipment to the customer. Once a WWN is assigned, it cannot be used on any other controller pair or device on the network. This is the only WWN applicable to any controller installed in a specific physical location, even a replacement controller.

The WWN for your storage system is on peel-off labels attached to the Enterprise Virtual Array World Wide Name Label document contained in the Enterprise Virtual Array kit. Have it ready to enter into the designated field when you request your license key. The WWN number must be entered exactly as it appears on the label. In addition to using the WWN when requesting a license key, it is also entered into the controller Operator Control Panel (OCP) using instructions contained in the *HP StorageWorks Enterprise Virtual Array User Guide* for either the EVA3000 or EVA5000.

The WWN peel-off labels on the WWN Label document should also be attached to your storage system as instructed. The directions, including a graphic describing where to place the WWN labels, are found in the WWN Label

document. The same WWN number and Checksum number is on each of the three WWN peel-off labels. Two of the labels may have already been attached to the storage system. If not, follow the instructions for attaching the two labels. The remaining label is for reference.

Enterprise Virtual Array Value-Added Licenses

There are two types of value-added licenses available for the Enterprise Virtual Array:

- Business Copy EVA (optional)
- Continuous Access EVA

Business Copy EVA License

Business Copy EVA provides snapshot and cloning functionality on the EVA3000 or EVA5000, and is not required for Continuous Access EVA unless you desire this capability. Business Copy EVA is licensed based on the total source volume capacity replicated regardless of the number and type of copy images created. For a listing of available licensing options, review the document *QuickSpecs: HP StorageWorks Business Copy EVA*, which can be obtained at:

<http://h18006.www1.hp.com/products/storage/software/bizcopyeva/specifications.html>.

This document also contains upgrade information.

Continuous Access EVA License

Continuous Access EVA provides replication functionality on the EVA3000 or EVA5000 and requires a separate license for each EVA array.

Continuous Access EVA is licensed by utilized capacity, in terabytes, based on the total storage capacity which will be replicated on the EVA connected to the storage system. A license enables an EVA storage system to replicate data from a source to a destination storage system. For a listing of available licensing options, review the document *QuickSpecs: HP StorageWorks Continuous Access EVA*, which can be obtained at:

<http://h18006.www1.hp.com/products/storage/software/conaccesseva/specifications.html>

Obtaining a New License Key

When a license is purchased, you are provided with an *HP StorageWorks License Key Retrieval Instructions* sheet. This sheet, along with the *HP StorageWorks Enterprise Virtual Array World Wide Name Label*, is needed to obtain a license. Follow these steps to obtain license keys from the License Key Retrieval Website.

Note: If you purchased the Business Copy or Continuous Access EVA feature, you can request all the license keys at the same time.

If you do not have Web access, the *VCS License Key Retrieval Instructions* sheet describes how to obtain a license key using e-mail, FAX, or telephone.

1. Get the WWN from the *HP StorageWorks Enterprise Virtual Array World Wide Name Label*.
2. Get the Authorization ID from the *HP StorageWorks License Key Retrieval Instructions* sheet in the purchased licensing material.
3. Browse to the License Key Retrieval Website at <http://h18000.www1.hp.com/products/software/softwarekeys/index.html> and enter the requested company information.
4. Enter the Authorization ID (from the *HP StorageWorks License Key Retrieval Instruction Sheet*) and the WWN (from the World Wide Name Label) in the Authorization ID and WWN Number fields.



Caution: You must enter the WWN exactly as it is on the label. The WWN field is case-sensitive and the hyphens must be entered. Do not enter the checksum that appears on the label. Doing so will invalidate the license key. Once the WWN is entered into the licensing database, the license key is irrevocably linked to that WWN.

5. Select your operating systems.
6. Click **Submit**. The License Key Retrieval Website generates the license key, and you will receive your license key via e-mail in 1 to 48 hours.

Entering A License Key

When you receive the license key from the License Key Retrieval Website, enter it in Command View EVA according to the following procedures.

1. Make sure that your default e-mail editor is set up in plain-text mode.

Note: ASCII text is required when copying the license key from an e-mail application. If the application is in a non-ASCII mode, extra control characters can be embedded in the license text and cause the license to be invalid.

The method for changing an e-mail application to plain text varies with the program. For example, to change Microsoft Outlook to plain text mode:

- a. Select **Tools > Options** and click the **Mail Format** tab.
 - b. In the **Send in this format** field, select **Plain Text**.
 - c. Click **OK**.
2. Browse to your Storage Management Appliance.
 3. On the SMA Home page, click **Devices**. The Devices page is displayed.
 4. Click **command view eva**.
 5. In the Navigation pane, choose the storage system to be licensed.
 6. In the Session pane, click **Agent Options**. The Management Agent Options pane is displayed.
 7. Choose **Licensing options**. The Licensing Options pane is displayed.
 8. Choose **Enter new license key**. The Add a license pane is displayed.
 9. Open the e-mail message that contains the license key information.
 10. Copy only the paragraph containing the license key information. The license key looks similar to the following:

```
FEATURE HSV110-DRM Compaq 3.0 permanent uncounted BBE00B1AE000 \
HOSTID=HSVWWN=5000-1FE5-5000-3080 NOTICE="Authorization = \
BM03WHITMORE11574954, Qty 1, QM-71LAD-AA1.0, hp StorageWorks \
continuous Access eva5000, HSV110 VCS v3.0, 6TB allocated \
replicated capacity"
```
 11. Paste the license key into the field provided on the **Add a license** pane.
 12. Click the **Add License** tab.

License Troubleshooting Measures

Table 4 lists several possible problem situations that you might encounter and actions for correcting the problems. If you have any difficulty with license keys, go to the License Key Retrieval Website at:
<http://h18000.www1.hp.com/products/software/softwarekeys/index.html>.

Contact information is available on the website.

Table 4: License Troubleshooting Measures

Problem	Action
A message is received indicating that the Authorization ID entered at the License Key Retrieval Website was not valid.	Reenter the Authorization ID.
The Authorization ID was reentered correctly and you still receive a message indicating it is not valid.	Ensure that you have not already used the Authorization ID with a different WWN. If problems persist, contact the HP Support location listed at the License Key Retrieval website.
The following message is received: All license keys for the entered license Authorization ID have already been fulfilled.	Ensure that you have not already used the Authorization ID with a different WWN. Follow the instructions to have the website provide the previously issued keys and compare against your WWNs. If problems persist, contact the HP Support location listed at the License Key Retrieval website.
You lose a license key.	Enter the Authorization ID and World Wide Name at the License Key Retrieval Website. You will receive the following message: "All license keys for this entered license Authorization ID have been fulfilled." Use the back buttons, and select from the list of fulfilled licenses to have the license key sent to you again.

Configuration and Testing

4

This chapter describes configuration tasks and functions to test before you begin Continuous Access EVA operations. [Table 5](#) lists the order of the tasks and the documents that provide more detailed information. Users coming from a Continuous Access EVA V1.0 environment have already performed these tasks.

Table 5: Continuous Access EVA Setup Checklist

Task	Reference Document
Insert applicable license keys.	Chapter 3, this document
Create a default disk group. This includes initialization of the array and assigning where the array receives clock input. To facilitate ease in troubleshooting, all arrays should use the same clock. This can be via a standard clock for all appliances, or having all arrays use the same appliance.	<i>Command View EVA Getting Started Guide</i> , "Getting Started with Command View EVA v3.1" Chapter <i>Continuous Access EVA Operations Guide</i> , "Configuration Planning" Chapter
Create additional disk group. <ul style="list-style-type: none">■ Add disks a group at a time■ Modify disk groups	<i>Continuous Access EVA Operations Guide</i> , "Configuration Planning" Chapter Command View EVA Online Help
Create Vdisk folders and Vdisks.	Command View EVA Online Help
Install platform-specific Secure Path software for any UNIX-based OS.	Secure Path documentation for platform
Create host folders and hosts.	Command View EVA Online Help
Present Vdisks to hosts.	Command View EVA Online Help
Install Continuous Access user interface and set up monitoring.	<i>Continuous Access User Interface Installation Guide</i> <i>Continuous Access User Interface Release Notes</i>

Table 5: Continuous Access EVA Setup Checklist (Continued)

Task	Reference Document
Set up data replication objects: <ul style="list-style-type: none">■ Copy sets and DR groups■ Managed sets	<i>Continuous Access EVA Operations Guide</i> , "Configuration" Chapter Continuous Access User Interface Online Help
Present destination Vdisks to hosts.	Command View EVA Online Help
Set up controller and replication monitoring.	<i>Continuous Access User Interface Installation Guide</i> , "Post-Installation Changes" Chapter
Test failover functions: <ul style="list-style-type: none">■ Suspend■ Resume■ Failover■ Disable failsafe Begin your testing without I/O, and then proceed to testing with I/O.	<i>Continuous Access EVA Operations Guide</i> , "Recovery" Chapter Continuous Access User Interface Online Help

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